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## NOTICE OF ALLOWANCE AND FEE(S) DUE

22919 7590 06/11/2009

GLOBAL IP COUNSELORS, LLP  
1233 20TH STREET, NW, SUITE 700  
WASHINGTON, DC 20036-2680

EXAMINER

BAUER, CASSEY D

ART UNIT

PAPER NUMBER

3744

DATE MAILED: 06/11/2009

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/586,582

07/19/2006

Masahiro Honda

DK-US040630

7390

TITLE OF INVENTION: AIR CONDITIONER WITH OIL RECOVERY FUNCTION

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1510	\$300	\$0	\$1810	09/11/2009

**THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.**

**THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.**

### HOW TO REPLY TO THIS NOTICE:

#### I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

**IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.**

# **PART B - FEE(S) TRANSMITTAL**

**Complete and send this form, together with applicable fee(s), to: Mail Mail Stop ISSUE FEE  
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**INSTRUCTIONS:** This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

22919 7590 06/11/2009

**GLOBAL IP COUNSELORS, LLP**  
1233 20TH STREET, NW, SUITE 700  
WASHINGTON, DC 20036-2680

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

## **Certificate of Mailing or Transmission**

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/586,582 07/19/2006 Masahiro Honda DK-US040630 7390

TITLE OF INVENTION: AIR CONDITIONER WITH OIL RECOVERY FUNCTION

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
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nonprovisional NO \$1510 \$300 \$0 \$1810 09/11/2009

EXAMINER	ART UNIT	CLASS-SUBCLASS
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BAUER, CASSEY D 3744 062-324100

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

- (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, 1 \_\_\_\_\_
- (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2 \_\_\_\_\_
- 3 \_\_\_\_\_

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☐ Issue Fee
- ☐ Publication Fee (No small entity discount permitted)
- ☐ Advance Order - # of Copies \_\_\_\_\_

4b. Payment of Fee(s); (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.
- ☐ Payment by credit card. Form PTO-2038 is attached.
- ☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number \_\_\_\_\_ (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

- ☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature \_\_\_\_\_

Date \_\_\_\_\_

Typed or printed name \_\_\_\_\_

Registration No. \_\_\_\_\_

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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10/586,582	07/19/2006	Masahiro Honda	DK-US040630	7390
22919	7590	06/11/2009	EXAMINER	
GLOBAL IP COUNSELORS, LLP 1233 20TH STREET, NW, SUITE 700 WASHINGTON, DC 20036-2680			BAUER, CASSEY D	
			ART UNIT	PAPER NUMBER
			3744	
DATE MAILED: 06/11/2009				

## Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 415 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 415 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/586,582	HONDA ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Cassey Bauer	3744	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 5/21/2009.
2. ☒ The allowed claim(s) is/are 1-20.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
  - \* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

**Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |  |  |
|--|--|
| <ol style="list-style-type: none"> <li>1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)</li> <li>2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)</li> <li>3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),<br/>Paper No./Mail Date _____</li> <li>4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br/>of Biological Material</li> </ol> | <ol style="list-style-type: none"> <li>5. <input type="checkbox"/> Notice of Informal Patent Application</li> <li>6. <input type="checkbox"/> Interview Summary (PTO-413),<br/>Paper No./Mail Date _____.</li> <li>7. <input type="checkbox"/> Examiner's Amendment/Comment</li> <li>8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance</li> <li>9. <input type="checkbox"/> Other _____.</li> </ol> |
|--|--|

/Cassey Bauer/  
Examiner, Art Unit 3744

### **DETAILED ACTION**

The Amendment filed 21 May, 2009 has been entered. The objection to the specification of the previous office action has been withdrawn in light of the Amendment to the title. The claim objections of the previous office action have been withdrawn in light of the amendments to claims 1, 2, 5, 7, 11, 13, 15, 17 and 19. The 35 U.S.C. 112 second paragraph rejections of claims 1-20 of the previous office action have been withdrawn in light of the amendments to claims 1, 2, and 7. The 35 U.S.C. 112 first paragraph rejections of claims 1-20 of the previous office action have been withdrawn in light of the amendments to claims 1, 2, and 7 and Applicants response beginning on page 12 of the remarks. Claims 1-20 are allowed.

### ***Allowable Subject Matter***

1. The following is an examiner's statement of reasons for allowance:

The prior art of record when considered as a whole, alone or in combination, neither anticipates nor renders obvious:

“the refrigerant circuit, the first bypass circuit and the oil returning circuit being operatively arranged with respect to one another such that when the heat source heat exchanger is caused to function as an evaporator an oil recovery operation is conducted by temporarily causing the refrigerant discharged from the compression mechanism to be bypassed to the intake side of the compression mechanism via the first bypass circuit, causing the heat source heat exchanger to function as a condenser, and closing the expansion valve, the refrigerant being discharged from the compression mechanism is caused to flow into the heat

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source heat exchanger, and refrigerating machine oil accumulating inside the heat source heat exchanger being returned to the intake side of the compression mechanism via the oil returning circuit" as recited in instant claim 1;

"the refrigerant circuit, the first bypass circuit and the oil returning circuit being operatively arranged with respect to one another such that when the heat source switch mechanism is switched to the evaporation operation switched state, an oil recovery operation is conducted by temporarily causing the refrigerant discharged from the compression mechanism to be bypassed to the intake side of the compression mechanism via the first bypass circuit, switching the heat source switch mechanism to the condensation operation switched state, and closing the expansion valve, the refrigerant being discharged from the compression mechanism is caused to flow into the heat source heat exchanger, and refrigerating machine oil accumulating inside the heat source heat exchanger being returned to the intake side of the compression mechanism via the oil returning circuit" of instant claim 2; and

"the refrigerant circuit and the oil returning circuit being further operatively arranged with respect to each other such that when the heat source heat exchanger is caused to function as an evaporator, an oil recovery operation is configured to be temporarily conducted by temporarily causing the heat source heat exchanger to function as a condenser, the refrigerant being discharged from the compression mechanism is caused to flow into the heat source heat exchanger, and refrigerating machine oil accumulating inside the heat source

heat exchanger is returned to the intake side of the compression mechanism via the oil returning circuit" of instant claim 7 without impermissible hindsight.

Okoshi et al. (US 5,009,007) explicitly teaches three refrigerant circuits (G1-3), a first bypass circuit (2b), an oil returning circuit (13) a heat source heat exchanger (5) and a plurality of utilization heat exchangers (C1-3). However, when the heat source heat exchanger (5) functions as an evaporator as in figure 6, the oil returning circuit (13) is closed by way of shut off valve (14) and therefore oil accumulating inside the heat source heat exchanger (5) is not returned to the intake side of the compression mechanism (1) via the oil returning circuit (13). When the oil intake circuit (13) is open as in figure 7, shut off valves (7, 8 and 4) are closed to isolate heat source heat exchanger (5) in "stop mode" and therefore the heat source heat exchanger (5) does not act as an evaporator. Oil from the heat source heat exchanger is returned to the intake side of the compression mechanism (5) in the operation mode shown in figure 7, however such an action is recovered via circuit (3a) and not via the oil returning circuit as cited in instant claims 1, 2, and 7. Further in order to modify the system of Okoshi et al. to meet the claimed limitations of instant claims 1, 2, and 7 reprogramming of the valves (4) to be open, (10) to be closed, (7) to be open, and extra structure such as a check valve in line (W) would be necessary to operate as the claimed invention. Doing so would also cause the apparatus of Okoshi et al. to cease to function as intended since the mode of operation illustrated in figure 7 causes the heat source heat exchanger to operate in "stop mode" and at least one plurality

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of utilization heat exchangers (C1-3) operates as an evaporator, and another of the at least one of the plurality of utilization heat exchangers (C1-3) operates as a condenser. Reprogramming of the valves in order to meet the instant claims 1, 2, and 7 would destroy this functionality.

Additional references that also fail to meet the bounds of the present invention's claims are as follows: Park et al. (US 2004/0035132 A1) teaches where an oil recovery circuit (16) is provided however the oil recovery circuit is not operatively arranged so that when the heat source heat exchanger (2) is caused to function as an evaporator, as in figure 3b, refrigeration oil accumulating inside the heat source heat exchanger (2) is returned to the intake side of the compression mechanism (1) via the oil returning circuit (16) as evidenced by the flow arrows present in line (16) without first circulating through a unit having the plurality of utilization heat exchangers as required by instant claims 1, 2, and 7; Hwang (US 2003/0230096 A1) teaches where an oil recovery circuit (5) is provided however the oil recovery circuit is not operatively arranged so that when the heat source heat exchanger (2) is caused to function as an evaporator, as in figures 2b and 3b refrigeration oil accumulating inside the heat source heat exchanger (2) is returned to the intake side of the compression mechanism (1) via the oil returning circuit (5) as evidenced by the closed valve (6) present in line (5) as required by instant claims 1, 2, and 7; and Park et al. (US 2004/013215A1) does not teach an oil recovery circuit being arranged in a unit with the heat source heat exchanger (2) separate from the units having a



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plurality of utilization heat exchangers (C), as required in instant claims 1, 2, and 7. Therefore claims 3-6, and 8-20 depending therefrom are considered to be allowable.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cassey Bauer whose telephone number is (571)270-7113. The examiner can normally be reached on Monday -Friday: 7-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler & Frantz Jules can be reached on (571)272-4834 & (571)272-6681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3744

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Cassey Bauer/  
Examiner, Art Unit 3744

/Frantz F. Jules/  
Supervisory Patent Examiner, Art Unit 3744